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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):

Timothy M. Swager et al.

Serial No.:

Not yet assigned

Confirmation No.:

Not yet assigned

Filed:

Herewith

For:

POLYMERS WITH HIGH INTERNAL FREE VOLUME

Examiner:

Not yet assigned

Art Unit:

Not yet assigned

Mail Stop Patent Application Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

STATEMENT FILED PURSUANT TO THE DUTY OF DISCLOSURE UNDER 37 CFR §§1.56, 1.97 AND 1.98

Sir:

Pursuant to the duty of disclosure under 37 C.F.R. §§1.56, 1.97 and 1.98, the Applicant requests consideration of this Information Disclosure Statement.

PART I: Compliance with 37 C.F.R. §1.97

This Information Disclosure Statement has been filed within three months of the filing date of a National Application other than a continued prosecution application under 37 C.F.R. §1.53(d) and before the mailing date of a first Office Action on the merits in the above-identified case.

No fee or certification is required.

PART II: Information Cited

The Applicant hereby makes of record in the above-identified application the information listed on the attached form PTO-1449 (modified). The order of presentation of the references should not be construed as an indication of the importance of the references.

The Applicant hereby makes the following additional information of record in the above-identified application.

764547

Art Unit: Not yet assigned

Serial No.: Not yet assigned

Conf. No.: Not yet assigned

The following co-pending applications that may contain subject matter related to this application are enclosed unless the earlier application is identified herein and is relied upon for an earlier filing date under 35 U.S.C. §120, and the copy was provided in the earlier application:

- 2 -

Serial No.	Filing Date	Inventor(s)	Atty Docket No.
09/305,379	May 5, 1999	T.M. Swager et al.	M0925.70062US00
09/935,060	August 21, 2001	T.M. Swager et al.	M0925.70094US00

<u>PART III: Explanation of Non-English Language References and Remarks Concerning Other Information Cited</u>

The following is a concise explanation of the relevance of each non-English language reference listed on the attached form PTO-1449 (modified):

DE 198 06 037 generally relates to triptycene polymers and copolymers.

DE 197 44 792 generally relates to triptycene derivatives and their use for optoelectronic applications, in particular as electroluminescent materials.

An English-language translation of Japanese application no. 05-113286, filed May 14, 1993, is enclosed.

PART IV: Remarks

Documents cited anywhere in the Information Disclosure Statement are enclosed unless otherwise indicated. It is respectfully requested that:

- 1. The Examiner consider completely the cited information, along with any other information, in reaching a determination concerning the patentability of the present claims;
- 2. The enclosed form PTO-1449 be signed by the Examiner to evidence that the cited information has been fully considered by the Patent and Trademark Office during the examination of this application;
- 3. The citations for the information be printed on any patent which issues from this application.

Conf. No.: Not yet assigned

By submitting this Information Disclosure Statement, the Applicant makes no representation that a search has been performed, of the extent of any search performed, or that more relevant information does not exist.

By submitting this Information Disclosure Statement, the Applicant makes no representation that the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. §1.56(b).

By submitting this Information Disclosure Statement, the Applicant makes no representation that the information cited in the Statement is, or is considered to be, in fact, prior art as defined by 35 U.S.C. §102.

Notwithstanding any statements by the Applicant, the Examiner is urged to form his own conclusion regarding the relevance of the cited information.

An early and favorable action is hereby requested.

Respectfully submitted, Timothy M. Swager et al., Applicants

By:

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Docket No. M0925.70094US01 Date: January 26, 2004

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FORM PTO-1449/A and B (Modified)	APPLICATION NO.:	Not yet assigned	ATTY. DOCKET NO.: M0925.70094US01
INFORMATION DISCLOSURE	FILING DATE:	Herewith CONFIRMATION NO.: Not yet assign	
STATEMENT BY APPLICANT	APPLICANT:	Timothy M. Swager et al.	
Sheet 1 of 3	GROUP ART UNIT:	Not yet assigned	EXAMINER: Not yet assigned

U.S. PATENT DOCUMENTS

Examiner's Initials	Cite	U.S. Patent Document		Name of Patentee or Applicant of Cited	Date of Publication or of issue of Cited Document	
	No.	Number	Kind Code	Document	MM-DD-YYYY	
	A1	*4,356,429	A	Tang	10-26-1982	
	A2 *4,687,732 A		Ward et al.	08-18-1987		
	A3			Coughlin et al.	05-22-1990	
	A4	*4,946,890	A	Meador	08-07-1990	
	A5	*4,992,302	A	Lindmayer	02-12-1991	
	A6	*5,155,149	Α	Atwater et al.	10-13-1992	
	A7	*5,194,393	A	Hugl et al.	03-16-1993	
	A8	*5,236,808	A	Smothers	08-17-1993	
	A9	*5,244,813	A	Walt et al.	09-14-1993	
	A10	*5,254,633	A	Han et al.	10-19-1993	
	A11	*5,364,797	Α	Olson et al.	11-15-1994	
	A12	*5,414,069	A	Cumming et al.	05-09-1995	
	A13	*5,451,683	A	Barrett et al.	09-19-1995	
	A14	*5,511,547	A	Markle et al.	04-30-1996	
	A15	*5,512,490	A	Walt et al.	04-30-1996	
	A16	*5,532,129	A	Heller	07-02-1996	
	A17	*5,540,999	Α	Yamamoto et al.	07-30-1996	
	A18	*5,546,889	Α	Wakita et al.	08-20-1996	
	A19	*5,554,747	A	Sharma et al.	09-10-1996	
	A20	*5,556,524	A	Albers	09-17-1996	
	A21	*5,563,056	A	Swan et al.	10-08-1996	
	A22	*5,565,322	A	Heller	10-15-1996	
	A23	*5,580,527	A	Bell et al.	12-03-1996	
	A24	*5,585,646	Α	Kossovsky et al.	12-17-1996	
	A25	*5,591,787	Α	Schlennert et al.	01-07-1997	
	A26	*5,597,890	A	Jenekhe	01-28-1997	
	A27	*5,607,864	A	Ricchiero et al.	03-04-1997	
	A28	*5,679,773	Α	Holmes	10-21-1997	
	A29	*5,700,696	A	Chandross et al.	12-23-1997	
	A30	*5,705,348	A	Meade et al.	01-06-1998	
	A31	*5,709,994	A	Pease et al.	01-20-1998	
	A32	*5,710,197	A	Fischer et al.	01-20-1998	
	A33	*5,723,218	A	Haugland et al.	03-03-1998	
	A34	*5,869,592	Α	Gagné et al.	02-09-1999	
	A35		A	Schadt et al.	12-12-2000	
	A36		B1	Tour et al.	07-10-2001	

Serial No. Not yet assigned Conf. No. Not yet assigned

FOREIGN PATENT DOCUMENTS

Examiner's Initials	Cite No.	Foreign Patent Document		ment	Name of Patentee or Applicant of Cited Document	Date of Publication of	Translation
		Office/ Country	Number	Kind Code	(not nooccomu)	Cited Document MM-DD-YYYY	(Y/N)
	B1	*DE	197 44 792	A1_	Hoechst AG	04-15-1999	N
	B2	*DE	198 06 037	A1	Aventis Research & Technologies GmbH	08-18-1999	N
	В3	*EP	0 442 123	A1	Neste Oy	08-21-1991	
<u> </u>	B4	*EP	1 011 154	A1	Sony International (Europe) GmbH	06-21-2000	
	B5	*JP	05-113286		Yamamoto	11-22-1994	
	B6	*WO	89/00593	A1	Memtec Limited	01-26-1989	
	B7	*WO	95/16681	A1	Trustees of the University of Pennsylvania	06-22-1995	
	B8	*WO	99/57222	A1	Massachusetts Institute of Technology	11-11-1999	
	B9	*WO	02/16463	A2	Massachusetts Institute of Technology	02-28-2002	

OTHER ART — NON PATENT LITERATURE DOCUMENTS

		OTHER ART - ROLL AT EXTENDED AND COLUMN TO A STATE OF THE	Translatio		
Examiner's Cite		Include name of the author (in CAPITAL LETTERS) title of the article (when appropriate), title of the item			
Initials	No	(book, magazine, journal, serial, symposium, catalog, etc.), date, relevant page(s), volume-issue number(s),			
	1,,,	publisher, city and/or country where published.			
	C1	*CHEN L. et al., "Tuning the properties of conjugated polyelectrolytes through surfactant complexation," J.			
	0,	Am. Chem. Soc., vol. 122, no. 38, pp. 9302-9303, 2000			
	C2	*CHEN L. et al., "Highly sensitive biological and chemical sensors based on reversible fluorescence quenching			
	C2	in a conjugated polymer," <i>PNAS</i> , vol. 96, no. 22, pp. 12287-12292, 1999			
-	C3	*FU DK.et al., "Alternating poly(pyridyvinylenephenylenevinylene)s: Synthesis and solid state			
	L3	organizations," Tetrahedron, vol. 53, no. 45, pp. 15487-15494, 1997			
		*GAYLORD B.S. et al., "Water-soluble conjugated oligomers: Effect of chain length and aggregation on			
	C4	photoluminescence-quenching efficiencies," J. Am. Chem. Soc., vol. 123, no. 26, pp. 6417-6418, 2001			
		*GAYLORD et al., "DNA detection using water-soluble conjugated polymers and peptide nucleic acid probes,"			
	C5	*GAY LOKED et al., DNA detection using water-soluble conjugated polymers and perfude nucleic acid probes,			
	ļ	Proc Natl Acad Sci USA, August 20, 2002, Vol. 99, No. 17, pp. 10954-10957	 -		
	C6	*HALKYARD C.E. et al., "Evidence of aggregate formation for 2,5-dialkylpoly(p-phenyleneethynylenes) in]		
		solution and thin films," Macromolecules, vol. 31, no. 25, pp. 8655-8659, 1998			
	C7	*HARRISON B.S. et al., "Amplified fluorescence quenching in a poly(p-phenylene)-based cationic			
		polyelectrolyte," J. Am. Chem. Soc., vol. 122, no. 35, pp. 8561-8562, 2000			
	C8	*HEEGER P.S. & Heeger, A.J. "Making sense of polymer-based biosensors," Proc. Natl Acad Sci USA, vol. 96,			
		no. 22, pp. 12219-12221, 1999			
	C9	*HÖGER S. et al., "Synthesis, aggregation, and adsorption phenomena of shape-persistent macrocycles with			
		extraannular polyalkyl substituents," J. Am. Chem. Soc., vol. 123, no. 24, pp. 5651-5659, 2001			
	C10				
		17, no. 9, pp. 2568-2571, 2001			
	C11	*KIM J. et al., "Nanoscale fibrils and grids: Aggregated structures from rigid-rod conjugated polymers,"			
		Macromolecules, vol. 32, no. 5, pp. 1500-1507, 1999			
	C12	*KIM et al., "Ultrafast Energy-Transfer Dynamics between Block Copolymer and π -Conjugated Polymer Chains			
		in Blended Polymeric Systems," Chemistry of Materials, Vol. 13(8), pp. 266-2674			
	C13	*KRAFT et al., "Electroluminescent Conjugated Polymers - Seeing Polymers in a New Light," Angew. Chem.			
		Int. Ed. 1998, 37, 402-428			
	C14	*KUSHON et al., "Detection of DNA Hybridization via Fluorescent Polymer Superquenching," Langmuir - The			
		ACS Journal of Surfaces and Colloids, October 1, 2002, Volume 18, Number 20	l		
	C15	*LEVITSKY I.A. et al., "Energy migration in a poly(phenylene ethynylene): Determination of interpolymer			
	013	transport in anisotropic langmuir-blodgett films," J. Am. Chem. Soc., vol. 121, no. 7, pp. 1466-1472, 1999	1		
	C16	*LI M. et al., "Novel surfactant-free stable colloidal nanoparticles made of randomly carboxylated polystyrene			
	C10	ionomers," Macromolecules, vol. 30, no. 7, pp. 2201-2203, 1997			
	C17				
	1	Chem. Soc., vol. 123, no. 5, pp. 1012-1013, 2001			
	C18				
	618	presented at the Meeting-American Chemical Society, Division of Polymer Chemistry, J. Am. Chem. Soc., vol.			
		39, no. 2, pp. 1081-1082, August 1998			
	1	57, 110. 2, pp. 1001-1002, 114gust 1770	1		

Serial No. Not yet assigned Conf. No. Not yet assigned

Examiner's Initials	Cite No	(book, magazine, journal, serial, symposium, catalog, etc.), date, relevant page(s), volume-issue number(s), publisher, city and/or country where published.			
	C19				
	C20	*NORVEZ, S. et al., "Epitaxygens: Mesophases Based on the Triptycene Molecular Subunit," J. Chem. Soc., Chem. Commun., 1990, pp. 1398-1399.			
	C21	*NORVEZ, S. et al., "Epitaxygens: mesomorphic properties of triptycene derivatives", <i>Liquid Crystals</i> , vol. 14, no. 5, 1993, pp. 1389-1395.			
	C22	*NORVEZ, S. et al., "Liquid Crystalline Triptycene Derivatives," J. Org. Chem., 1993, Vol. 58, No. 9, pp. 2414-2418.			
	C23	Finite Conjugational Segments with Short Aliphatic Linkages," J. Am. Chem. Soc., 2001, Vol. 123, pp. 11388-			
	C24	*PLACE I. et al., "Stabilization of the aggregation of cyanine dyes at the molecular and nanoscopic level," Langmuir, vol. 16, no. 23, pp. 9042-9048, 2000			
	C25	*PSCHIRER N.G. & Bunz, U.H.F. "Poly(fluorenyleneethynylene)s by alkyne metathesis: Optical properties and aggregation behavior," <i>Macromolecules</i> , vol. 33, no. 11, pp. 3961-3963, 2000			
	C26	microsensor coatings," J. App. Poly. Sci., vol. 43, pp. 1659-1671, 1991			
	C27	*SWAGER T.M. et al., "Fluorescence studies of poly(p-phynylenethynylene)s: The effect of anthracene substitution," J. Phys. Chem., vol. 99, no. 14, pp. 4886-4893, 1995			
	C28	*SWAGER, T. M. "The molecular wire approach to sensory signal amplification," <i>Acc. Chem. Res.</i> , vol. 31, no. 5, pp. 201-207, 1998			
	C29	ethynylene)," Chem. Commun., 2002, pp. 446-447			
	C30	using (dppe)Pt{S ₂ C ₂ (2-pyridyl)(CH ₂ CH ₂ OH)}," J. Am. Chem. Soc., vol. 120, no. 47, pp. 12359-12360, 1998			
	C31	Conjugated Oligomers," <i>Langmuir</i> , 1999, Vol. 15, pp. 5676-5680	-		
	C32	phenyleneethynylene)s," Macromolecules, vol. 29, no. 15, pp. 5157-5165, 1996			
	C33	their degradation in water." Macromolecules, vol. 33, no. 24, pp. 9040-9043, 2000			
	C34	effects", J. Am. Chem. Soc., vol. 120, no. 46, 1998, pp. 11864-11873.			
	C35	*YANG, Jye-Shane et al., "Anomalous crystal packing of iptycene secondary diamides leading to novel chain and channel networks", <i>Tetrahedron Letters</i> , vol. 41, no. 41, October 7, 2000, pp. 7911-7915.			
	C36	2001			
	C37	migration in conjugated polymers," J. Am. Chem. Soc., vol. 117, no. 26, pp. 7017-1018, 1995			
	C38	*ZHOU Q.& T.M. Swager, "Fluorescent chemosensors based on energy migration in conjugated polymers: The molecular wire approach to increased sensitivity," <i>J. Am. Chem. Soc.</i> , vol. 117, no. 50, pp. 12593-12602, 1995			

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EXAMINER	DATE CONSIDERED
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#EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

^{*}a copy of this reference is not provided as it was previously cited by or submitted to the office in a prior application, Serial No. 09/935,060, filed August 21, 2001, and relied upon for an earlier filing date under 35 U.S.C. 120 (continuation, continuation-in-part, and divisional applications).